

IN THE CLAIMS:

Cancel claims 22-28, 31 and 34 without prejudice or admission and amend claims 29, 30, 32 and 33 as shown in the following listing of claims, which replaces all previous versions and listings of claims.

1. (previously presented) A pulse detection device comprising:

a base plate having a first main surface disposable against a part of a living body during use of the pulse detection device, a second main surface disposed opposite the first main surface, and a channel formed in the second main surface;

a first piezoelectric element disposed in the channel of the base plate for transmitting an ultrasonic signal toward an artery in the living body; and

a second piezoelectric element disposed in the channel of the base plate for receiving the ultrasonic signal transmitted by the first piezoelectric element and reflected by the artery.

2. (previously presented) A pulse detection device comprising:

a base plate having a first main surface disposable against a part of a living body during use of the pulse detection device, a second main surface disposed opposite the

first main surface, and a channel formed in the second main surface;

a transmitting piezoelectric element disposed in the channel of the base plate for generating an ultrasonic signal and transmitting the ultrasonic signal toward an artery in the living body;

a receiving piezoelectric element disposed in the channel of the base plate for receiving the ultrasonic signal transmitted by the transmitting piezoelectric element and reflected by the artery and for converting the reflected ultrasonic signal into an electrical signal; and

a detection section for detecting a pulse from the electrical signal.

3. (previously presented) A pulse detection device according to claim 2; wherein the base plate has an acoustic impedance value which is intermediate an acoustic impedance value of each of the piezoelectric elements and an acoustic impedance value of the living body.

4. (previously presented) A pulse detection device according to claim 2; wherein the base plate comprises a glass base plate having a thickness of about 1/4 of a wavelength of the ultrasonic signal generated by the transmitting piezoelectric element.

5. (previously presented) A pulse detection device according to claim 2; further comprising a resin layer disposed on the first main surface of the base plate.

6. (previously presented) A pulse detection device according to claim 5; wherein the resin layer comprises an epoxy-based resin.

7. (previously presented) A pulse detection device according to claim 5; wherein the resin layer comprises a silicone-based resin.

8. - 10. (canceled).

11. (previously presented) A pulse detection device according to claim 2; further comprising a support plate for supporting the transmitting piezoelectric element and the receiving piezoelectric element disposed in the channel of the base plate.

12. (previously presented) A pulse detection device according to claim 11; further comprising a sealing material disposed between the base plate and the support plate.

13. (previously presented) A pulse detection device according to claim 12; wherein the sealing material surrounds the transmitting and receiving piezoelectric elements without contacting the transmitting and receiving piezoelectric elements.

14. (canceled).

15. (previously presented) A pulse detection device according to claim 2; wherein a thickness of a portion of the base plate from a base of the channel to the first main surface thereof is about 1/4 of a wavelength of the ultrasonic signal generated by the transmitting piezoelectric element.

16. (previously presented) A pulse detection device according to claim 11; further comprising at least one first electrode disposed on the second main surface of the base plate and at least one second electrode electrically connected to the first electrode and disposed on a surface of the support plate.

17. (previously presented) A pulse detection device according to claim 11; further comprising a metallic bonding for connecting at least one of the transmitting piezoelectric element and the receiving piezoelectric element to the base plate.

18. (canceled).

19. (previously presented) A pulse detection device according to claim 2; further comprising an electrode disposed on the second main surface of the base plate for applying a voltage to the transmitting and receiving piezoelectric elements.

20. (previously presented) A pulse detection device according to claim 11; further comprising a flexible printed circuit board disposed between the base plate and the support plate and having an electrode for applying a voltage to the transmitting and receiving piezoelectric elements.

21. (previously presented) A pulse detection device according to claim 12; wherein the sealing material comprises silicone resin.

22. - 28. (canceled)

29. (currently amended) ~~A pulse detection device according to claim 28; wherein the sealing material surrounds~~  
~~A pulse detection device comprising: a base plate having a~~  
~~first surface disposable against a part of a living body and a~~  
~~second surface disposed opposite the first surface; a resin~~  
~~layer disposed on the first surface of the base plate; a~~  
~~transmitter provided on the base plate so as to not protrude~~  
~~from the second surface of the base plate for transmitting an~~  
~~ultrasonic signal toward an artery in the living body; a~~  
~~receiver provided on the base plate so as to not protrude from~~  
~~the second surface of the base plate for receiving the~~  
~~ultrasonic signal transmitted by the transmitter and reflected~~  
~~by the artery; a support plate for supporting the transmitter~~  
~~and the receiver; and a sealing material disposed between the~~

base plate and the support plate and surrounding the transmitter and the receiver without contacting the transmitter and the receiver.

30. (currently amended) A pulse detection device according to claim 27; further comprising A pulse detection device comprising: a base plate having a first surface disposable against a part of a living body and a second surface disposed opposite the first surface; a resin layer disposed on the first surface of the base plate; a transmitter provided on the base plate so as to not protrude from the second surface of the base plate for transmitting an ultrasonic signal toward an artery in the living body; a receiver provided on the base plate so as to not protrude from the second surface of the base plate for receiving the ultrasonic signal transmitted by the transmitter and reflected by the artery; a support plate for supporting the transmitter and the receiver; and a flexible printed circuit board disposed between the base plate and the support plate and having an electrode for applying a voltage to the transmitter and the receiver.

31. (canceled)

32. (currently amended) A pulse detection device according to claim 22; further comprising A pulse detection device comprising: a base plate having a first surface

disposable against a part of a living body and a second surface disposed opposite the first surface; a transmitter provided on the base plate so as to not protrude from the second surface of the base plate for transmitting an ultrasonic signal toward an artery in the living body; a receiver provided on the base plate so as to not protrude from the second surface of the base plate for receiving the ultrasonic signal transmitted by the transmitter and reflected by the artery; and a channel formed in the second surface of the base plate; wherein plate, the transmitter and the receiver are being disposed in the channel so as to not protrude from the second surface of the base plate.

33. (currently amended) A pulse detection device comprising:

transmitting means for transmitting an ultrasonic wave toward an artery;

receiving means for receiving the ultrasonic wave transmitted by the transmitting means and reflected by the artery; and

a base plate having a first surface disposable against a part of a living body containing the artery and a second surface disposed opposite the first surface, the transmitting means and the receiving means being disposed on the base plate so as to not protrude from the second surface; and

a channel formed in the second surface of the base plate, the transmitting means and the receiving means being disposed in the channel so as to not protrude from the second surface of the base plate.

34. (canceled)

35. (previously pending) A pulse detection device according to claim 33; further comprising pulse information acquiring means for acquiring an ultrasonic wave signal from the receiving means and determining pulse information based on the ultrasonic wave signal; and output means for outputting the pulse information from the pulse information acquiring means.